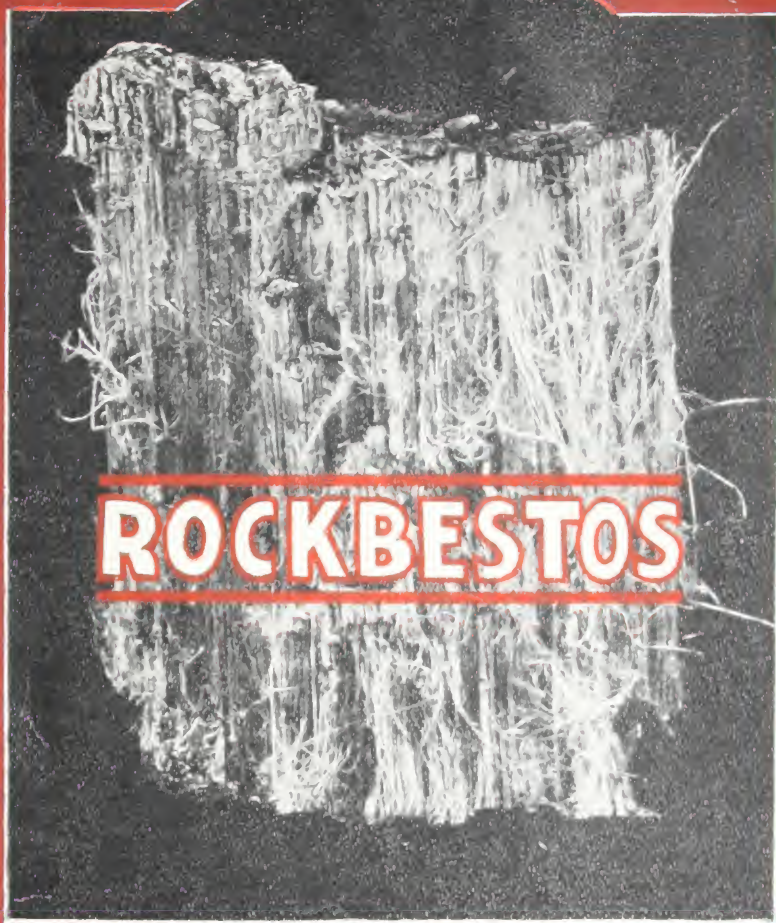


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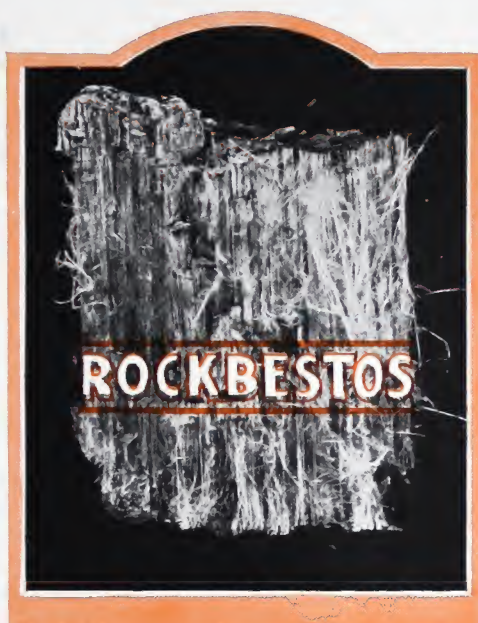
ASBESTOS-COVERED
WIRES *and* CABLES
for EVERY SERVICE



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Corporation

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Written, Compiled, Illustrated
and Printed

by
REX W. WADMAN, INC.

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ASBESTOS - COVERED
WIRES *and* CABLES
for EVERY SERVICE

ROCKBESTOS

Manufactured by

MARLIN-ROCKWELL
CORPORATION
NEW YORK CITY

INSULATED WIRE DIVISION
NEW HAVEN, CONNECTICUT

ROCKBESTOS

MARLIN-ROCKWELL

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PREFACE



HIS book has been written with the object of informing the electrical industry concerning Rockbestos—an asbestos insulation for all types of electrical conductors which is fire-proof in fact as well as in name.

We have long realized the need of an insulating material which should maintain its mechanical integrity and dielectric strength under the continual and severe temperature rises encountered in modern service—and our engineers, our chemists and our research laboratories have devoted all their energies to its development.

Only after a world-wide and finally successful search for the finest, strongest and purest asbestos which can possibly be obtained, were we willing to take up the manufacture of Rockbestos Wire upon a commercial scale.

Now, after years of development and test, we offer Rockbestos with the assurance that your confidence in it will be overwhelmingly justified by results in service.

MARLIN-ROCKWELL CORPORATION

Insulated Wire Division

Box 530—NEW HAVEN, CONN.

10,90-B6946 TCF

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THIS piece of raw Rockbestos, just as it was received from the mine, shows the unusually long fibres. When pulled apart with the fingers this fibrous structure is very apparent—and a comparison of a sample of Rockbestos with ordinary asbestos will make very evident the superiority of the former.

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THE ideal fireproof wire is that of which the insulation will successfully resist temperatures high enough to fuse the conductor. In our search, therefore, for the ideal insulating material, we perforce immediately ruled out the two materials heretofore most widely used—cotton and rubber. Cotton, under continued high temperature, gradually carbonizes, and becomes converted from an insulator into a conductor, causing short circuits and burn-outs. Rubber is, by its inherent characteristics, by no means a fire-resister; due to natural oxidation, it deteriorates rapidly; under heat, this deterioration is accelerated.

Asbestos obviously offers itself as the best possible heat-resisting material. Being a mineral of igneous origin, born of the incandescent rock when the earth was formed, it defies heat. It is proof against the chemical action of alkalies and acids; and, in its pure state—free from metallic oxides—is an excellent electrical insulator.

It has been by no means easy to find deposits of asbestos sufficiently free from iron and alumina to satisfy the exacting demands of our research engineers and chemists. After thoroughly exploring the asbestos-bearing districts of Canada, South Africa, Finland, Siberia and China, without finding material sufficiently pure for our requirements, our prospectors finally found certain large deposits of almost ideally pure asbestos.

This asbestos, moreover, beside being purer than any other heretofore mined, is also unusually long-fibred, the filaments being as much as three

ROCKBESTOS



AFTER the Rockbestos fibres have been separated, the ordinary observer could hardly tell it from raw cotton. Here is a handful of Rockbestos in its flocculent or woolly state, ready to go to the carding machines.

ROCKBESTOS

inches or more in length. This long fibre assures for Rockbestos a mechanical strength and uniformity of thickness which is necessary for the best asbestos insulation.

Rockbestos is mined in masses varying in size and is shipped to the fiberizing plant, where specially-constructed machines grind it, shred it, and free it from any adhering fragments of the rock in which it was originally imbedded. On emerging from this operation, Rockbestos has a light, fluffy, woolly appearance, very similar to raw cotton.

It is then taken to the carding machines, where it is repeatedly combed out until the long, strong fibres are all uniformly arranged parallel to one another—and is then spun into a loose strand known as roving, which is the form in which it is applied to the conductor.

All copper insulated with Rockbestos is drawn to standard specifications. Special alloys, resistance wires, etc., can be furnished with Rockbestos insulation according to any indicated specifications.

In order to reduce to a minimum the space occupied by the Rockbestos insulation, we have perfected special machinery for covering the wire with a wall of insulation equivalent to double cotton-covered magnet wire, irrespective of the gauge of the conductor; *the accuracy of this equivalence is guaranteed*. We thus provide for the same number of ampere turns in a given space, and eliminate the necessity of special coil-winding data and formulæ.

The Rockbestos, in the form of roving, is evenly wound upon the bare copper conductor and is then saturated with a special, chemically neutral, inorganic cement. Dependent upon the requirements of the purchaser, this cement renders Rockbestos wire either jet black or snow white.

The finished product is a wire having a uniform homogeneous insulating wall of great mechanical and dielectric strength, possessing maximum

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AFTER the fibres of Rockbestos have been combed out parallel to one another in the carding machine, they are spun into a loose strand or roving, as shown above. This roving is now ready to go to the insulating machines, where it will be wound upon the conductor.

ROCKBESTOS

flexibility and unsurpassed fire-proof, acid-proof, oil-proof and moisture-proof qualities.

The insulation thus secured by our special processes of manufacture is so flexible that the wire may be bent to much sharper angles than would be met with in service, without cracking the firm, even coating of Rockbestos.

The wire may also be elongated to ten per cent. of its original length without any harmful effect upon the Rockbestos insulation.

From the mechanical standpoint, Rockbestos wire is ideal for all forms of electro-magnetic windings—the insulation is firm, tough and durable, withstanding pressure and resisting abrasion. The adhesive compound employed in manufacture contains no solvents which can subsequently evaporate, allowing the asbestos to dry and fall out. Rockbestos maintains indefinitely its original mechanical and electrical strength.

In its special quality of resistance to heat, Rockbestos insulation is unexcelled—it retains its insulating properties irrespective of the excessive temperatures to which it may be subjected in laboratory tests or commercial service.

It will resist, without electrical or mechanical breakdown, temperatures sufficiently high to fuse the copper conductor—coils wound with Rockbestos wire may be alternately heated red hot and cooled to zero temperature without the least impairment of the insulation.

In fact, Rockbestos insulation is even more durable than the copper conductor which it protects. The capacity of electrical machinery has hitherto been limited by the maximum temperature at which the machine may be operated without deterioration of the insulation—but we confidently predict that, in machines wound with Rockbestos wire, the limit of temperature rise will be determined, not by the insulation, but by the fusing point of the coil-windings or the ability of the bearings to run hot.

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HERE is a short range view of Rockbestos Roving mounted on an insulating machine. This roving is being wound upon a bare conductor and ultimately forms an insulating wall of unsurpassed fire-proof, acid-proof, oil-proof and moisture-proof qualities.

ROCKBESTOS

The use of Rockbestos wire will definitely and positively insure generators, motors, transformers and electro-magnetic windings of any description, against burning out from any cause whatever—it will reduce to a minimum the possibility of breakdowns, and will entirely eliminate the expensive and time-consuming process of rewinding.

We not only carry constantly in stock a large supply of the common sizes of Rockbestos magnet wire, as described in the following pages, but can also cover magnet wire, for special requirements, with single, double or triple thicknesses of Rockbestos; and are prepared to make special types of Rockbestos magnet wire to your own specifications.

Rockbestos wire is not only thoroughly inspected during process but is also given final searching scrutiny and test before packing—it comes to you ready to successfully withstand the most destructive service to which you can subject it.

Differing service conditions to which wire or cable is to be subjected obviously demand different forms of construction.

In order to assist our customers in overcoming difficult problems which they may encounter and of which we have no previous knowledge, we urge that an opportunity be given our Research Department to co-operate with you in overcoming your difficulties.

We have found many instances in which such co-operation between our customers and ourselves has resulted in the complete elimination of troubles previously existing.

ROCKBESTOS

Round Copper Magnet Wire



Construction The conductor is thoroughly-annealed copper of uniform and extreme softness and of 98.5% electrical conductivity, according to Matthiesen's Standard. It is carefully inspected for accuracy of diameter, which may be made in strict conformity to customers' specifications.

The insulation is pure long fibred Rockbestos from our own mines, thoroughly separated, carded and spun into roving which is wound uniformly upon the conductor and then saturated with a special chemically neutral cement. The insulating wall thus produced is of the same thickness as double cotton covered magnet wire.

This construction produces an insulation which will resist the fusing temperature of the copper conductor, and of such extreme toughness that it will not crack or break when the wire is formed in sharp bends. This wire may be elongated 10 per cent. without harm to the Rockbestos insulation.

Round Copper Magnet Wire is furnished in either snow-white or jet-black finish.

Applications Rockbestos magnet wire, being able to withstand repeated heatings to redness, even to temperatures in excess of the fusing point of copper, is unequalled for use in the manufacture and renovation of field and armature coils for railway, mining, mill and general industrial motors, for coils in lifting magnets and automatic switches, and for all other electro-magnetic windings which are subject to severe temperature rises.

To meet special requirements we are prepared to furnish Rockbestos insulation in various thicknesses, on conductors of metals other than copper. Prices will be quoted upon receipt of specifications.

Current prices on our standard product are to be found in our latest list, in the back of this book.

ROCKBESTOS

Round Copper Magnet Wire



| Size B & S Gauge | BARE WIRE | | ROCKBESTOS COVERED WIRE | | |
|---------------------|------------------|----------------------|---|-------------------------------------|---|
| | Diameter, Inches | Area, Circular Mills | Approximate Diameter Over Insulation in Inches | Approximate Pounds Per 1000 Feet | Approximate Quantity on Reels in Pounds |
| 0000 | .46000 | 211600 | .478 | 646.9 | 300 |
| 000 | .40964 | 167800 | .428 | 513.15 | 300 |
| 00 | .36480 | 133100 | .383 | 408.62 | 280 |
| 0 | .32495 | 105500 | .343 | 325.05 | 265 |
| 1 | .28930 | 83690 | .307 | 258.05 | 250 |
| 2 | .25763 | 66370 | .276 | 205.26 | 250 |
| 3 | .22942 | 52640 | .247 | 162.87 | 250 |
| 4 | .20431 | 41740 | .222 | 129.49 | 250 |
| 5 | .18194 | 33100 | .200 | 102.90 | 250 |
| 6 | .16202 | 26250 | .178 | 81.86 | 240 |
| 7 | .14428 | 20820 | .162 | 64.85 | 240 |
| 8 | .12849 | 16510 | .143 | 51.59 | 240 |
| 9 | .11443 | 13090 | .126 | 41.02 | 230 |
| 10 | .10189 | 10380 | .112 | 32.50 | 230 |
| 11 | .09074 | 8234 | .10075 | 25.92 | 230 |
| 12 | .08080 | 6530 | .9075 | 20.64 | 230 |
| 13 | .07196 | 5178 | .0810 | 16.36 | 220 |
| 14 | .06408 | 4107 | .0730 | 13.02 | 210 |
| 15 | .05706 | 3257 | .0660 | 10.37 | 200 |
| 16 | .05082 | 2583 | .05975 | 8.284 | 190 |
| 17 | .04525 | 2048 | .05425 | 6.60 | 55 |
| 18 | .04030 | 1624 | .04925 | 5.287 | 50 |
| 19 | .03589 | 1288 | .0450 | 4.239 | 50 |
| 20 | .03196 | 1022 | .0410 | 3.394 | 50 |
| 21 | .02846 | 810.1 | .03750 | 2.713 | 50 |
| 22 | .02534 | 642.4 | .0345 | 2.184 | 35 |
| 23 | .02257 | 509.5 | .0315 | 1.774 | 30 |
| 24 | .02010 | 404.0 | .0290 | 1.424 | 25 |
| 25 | .01790 | 320.4 | .0269 | 1.152 | 25 |
| 26 | .01594 | 254.1 | .02494 | .9371 | 20 |
| 27 | .01420 | 201.5 | .0232 | .7442 | 15 |
| 28 | .01264 | 159.8 | .02164 | .6123 | 15 |

ROCKBESTOS

Rectangular Copper Magnet Wire



Construction The conductor is thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity, according to Matthiesen's Standard. It is carefully inspected for accuracy of dimensions, particularly with respect to the radii at the corners, which may be made in strict conformity to customers' specifications.

The insulation is pure, long-fibred Rockbestos from our own mines, thoroughly separated, carded and spun into roving which is wound uniformly upon the conductor and then saturated with a special chemically neutral cement. The insulating wall thus produced is of the same thickness as double cotton covered magnet wire.

In rectangular Rockbestos magnet wire, the insulation is applied in a smooth, even coating, of the same thickness on the corners of the bar as on the flat surfaces—a result absolutely essential to satisfactory service. We are prepared to fill orders for Rectangular Rockbestos Magnet Wire in strictest accordance to the most rigid specifications which can be written with reference to uniformity of thickness of insulation.

This construction produces an insulation which will resist the fusing temperature of the copper conductor, and of such extreme toughness that it will not crack or break when the wire is formed in sharp bends. This wire may be elongated 10% without harm to the Rockbestos insulation.

Rectangular Copper Magnet Wire is furnished in either snow-white or jet-black finish.

Applications Offering, for coil-winding purposes, a greater effective cross-section of copper than round wire, rectangular Rockbestos Magnet Wire finds its principal application in large industrial, railway and mine motors, electric furnace windings and similar heavy-capacity work where the overloads and consequent temperature rises are extreme.

To meet special requirements, we are prepared to furnish Rockbestos insulation in various thicknesses. Prices will be quoted upon receipt of specifications. Current prices on our standard product are to be found in our latest list, in the back of this book.

ROCKBESTOS

Rectangular Copper Magnet Wire



As Rectangular Magnet Wire can be made in so many different sizes and with so many different thicknesses of insulation, it becomes impracticable to attempt to completely tabulate them all other than to state that prices on this particular class of wire are determined by the cross sectional area as given in the following table.

| Square Mils | Circular Mils | Square Mils | Circular Mils | Square Mils | Circular Mils |
|------------------|---------------|----------------|---------------|----------------|---------------|
| 30,001 and over | 38197+ | 8,001 to 9,000 | 10187-11460 | 2,501 to 3,000 | 3184-3821 |
| 25,001 to 30,000 | 31832-38197 | 7,001 to 8,000 | 8914-10187 | 2,001 to 2,500 | 2547-3184 |
| 20,001 to 25,000 | 25464-31832 | 6,001 to 7,000 | 7641- 8914 | 1,501 to 2,000 | 1911-2547 |
| 15,001 to 20,000 | 19099-25464 | 5,001 to 6,000 | 6367- 7641 | 1,001 to 1,500 | 1274-1911 |
| 10,001 to 15,000 | 12733-19099 | 4,001 to 5,000 | 5094- 6367 | 501 to 1,000 | 638-1274 |
| 9,001 to 10,000 | 11460-12733 | 3,001 to 4,000 | 3821- 5094 | 500 and under | 638 and less |

To obtain the size in square mils, when width and thickness are given, multiply the dimensions in mils.

Square Mils = Width x Thickness.

One Square Mil = 1.273 Circular Mils.

One Circular Mil = .7854 Square Mils.

We are thoroughly equipped to make these rectangular magnet wires to the most rigid specifications, and invite correspondence.

No other tables can be furnished, as the area in either square or circular mils can be divided so many ways. Insulation, however, can be guaranteed to correspond with D. C. C. on all sizes.

ROCKBESTOS

Square Copper Magnet Wire



Construction The conductor is thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity, according to Matthiesen's Standard. It is carefully inspected for accuracy of dimensions, particularly with respect to the radii at the corners.

The insulation is pure, long-fibred Rockbestos from our own mines, thoroughly separated, carded and spun into roving which is wound uniformly upon the conductor and then saturated with a special chemically neutral cement. The insulation thus produced is of the same thickness as double cotton covered magnet wire.

In Square Rockbestos Magnet Wire, the insulation is applied in a smooth, even coating, of the same thickness on the corners of the bar as on the flat surfaces—a result absolutely essential to satisfactory service. We are prepared to fill orders for Square Rockbestos Magnet Wire in strictest accordance to the most rigid specifications which can be written with reference to uniformity of thickness of insulation.

This construction produces an insulation which will resist the fusing temperature of the copper conductor, and of such extreme toughness that it will not crack or break when the wire is formed in sharp bends. This wire may be elongated 10% without harm to the Rockbestos insulation.

Square Copper Magnet Wire is furnished in either snow-white or jet black finish.

Applications Offering an effective cross-section of copper even greater than the rectangular form, square Rockbestos magnet wire finds an even larger field of uses in the winding of coils for use in air compressors, arc lamps, generators, induction coils, lifting magnets, motors, relays, solenoids, spark coils, transformers, etc.

To meet special requirements, we are prepared to furnish Rockbestos insulation in various thicknesses. Prices will be quoted upon receipt of specifications.

Current prices on our standard product are to be found in our latest list, in the back of this book.

ROCKBESTOS

Square Copper Magnet Wire



| Size B & S Gauge | BARE WIRE | | ROCKBESTOS COVERED WIRE | | |
|---------------------|--------------------|--------------------------|--|--|--|
| | Diameter in Inches | Area in Circular Mils | Approximate Diameter Over Insulation in Inches | Approximate Pounds Per 1000 Feet | Approximate Quantity On Reels in Pounds |
| 0000 | .460 x .460 | 269366 | .478 x .478 | 646.9 | 300 |
| 000 | .409 x .409 | 212948 | .428 x .428 | 513.2 | 300 |
| 00 | .365 x .365 | 169626 | .383 x .383 | 408.7 | 280 |
| 0 | .325 x .325 | 134485 | .343 x .343 | 325.1 | 265 |
| 1 | .289 x .289 | 106222 | .307 x .307 | 258.1 | 250 |
| 2 | .258 x .258 | 82189 | .276 x .276 | 205.3 | 250 |
| 3 | .229 x .229 | 66757 | .247 x .247 | 162.9 | 250 |
| 4 | .204 x .204 | 52880 | .222 x .222 | 129.5 | 250 |
| 5 | .182 x .182 | 42116 | .200 x .200 | 102.9 | 250 |
| 6 | .162 x .162 | 33408 | .178 x .178 | 81.9 | 240 |
| 7 | .144 x .144 | 26396 | .162 x .162 | 64.9 | 240 |
| 8 | .128 x .128 | 20856 | .143 x .143 | 51.6 | 240 |
| 9 | .114 x .114 | 16543 | .126 x .126 | 41.1 | 230 |
| 10 | .102 x .102 | 13244 | .112 x .112 | 32.5 | 230 |
| 11 | .090 x .090 | 10311 | .100 x .100 | 25.9 | 230 |
| 12 | .080 x .080 | 8147 | .090 x .090 | 20.7 | 220 |
| 13 | .071 x .071 | 6417 | .081 x .081 | 16.4 | 210 |

Square Mils = Width in Mils x Thickness in Mils.

One Square Mil = 1.273 Circular Mils.

One Circular Mil = .7854 Square Mils.

ROCKBESTOS

Fixture Wire Stranded Conductor



Construction The stranded conductor is thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity according to Matthiesen's Standard. It is carefully inspected for accuracy both as to diameter of individual wires and of the completed strand.

The insulation is pure, long-fibred Rockbestos from our own mines, thoroughly separated, carded and spun into roving which is wound uniformly upon the conductor to a thickness of 25 mils, and then saturated with a special chemically neutral cement.

This construction produces an insulation which will resist the fusing temperature of the copper conductor, and of such extreme toughness that it will not crack or break when the wire is formed in sharp bends. This wire may be elongated 10% without harm to the Rockbestos insulation.

Rockbestos Fixture Wire is furnished in either snow-white or jet-black finish.

Applications Rockbestos Fixture Wire is ideally suited for fixture wiring of all classes, but especially those in which the temperature in service is likely to run so high as to make undesirable the use of rubber-covered cord or wire.

Rockbestos Fixture Wire may be installed in frequent cases without the additional use of conduits.

Rockbestos Fixture Wire is approved by the Underwriters Laboratories, Inc.

ROCKBESTOS

Fixture Wire Stranded Conductor



The table found below gives the more commonly used types of Fixture Wire Stranded Conductor. Specifications calling for different construction of either conductor or insulation may readily be complied with.

| Size B & S Gauge | BARE CONDUCTOR | | ROCKBESTOS COVERED CONDUCTOR | |
|------------------|-----------------|--------------------------|--|----------------------------------|
| | Number of Wires | B & S Gauge of Each Wire | Approximate Diameter Over Insulation in Inches | Approximate Pounds Per 1000 Feet |
| 14 | 41 | No. 30 | .128 | 18 |
| 16 | 26 | No. 30 | .110 | 11 |
| 18 | 16 | No. 30 | .100 | 9 |
| 18 | 41 | No. 34 | .100 | 9½ |

Standard reels contain 250 feet of Fixture Wire.

Rockbestos Fixture Wire is also packed in cartons containing 250 feet of wire.

ROCKBESTOS

Fixture Wire with Silk Covering Stranded Conductor



Construction The stranded conductor is thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity according to Matthiesen's Standard. It is carefully inspected for accuracy both as to diameter of individual wires and of the completed strand.

The insulation is pure, long-fibred Rockbestos from our own mines, thoroughly separated, carded and spun into roving which is wound uniformly upon the conductor to a thickness of 25 mils, and then saturated with a special chemically neutral cement. An outer braided covering of silk, mercerized cotton or Rockbestos yarn is added in any desired coloring, thus especially adapting this wire for use on fixtures in which the wiring is exposed. Of small diameter, it is very neat and attractive.

Applications Rockbestos Silk-covered Fixture Wire is especially suited to the wiring of all classes of electric lighting fixtures in which the wiring is exposed and in which tasteful appearance is an important factor—such as overhead fixtures, desk lamps, table lamps, floor lamps, etc.

Rockbestos Silk-covered Fixture Wire is approved by the Underwriters Laboratories, Incorporated.

| Size B & S Gauge | BARE CONDUCTOR | | INSULATED AND BRAIDED CONDUCTOR | |
|------------------|-----------------|--------------------------|---|----------------------------------|
| | Number of Wires | B & S Gauge of Each Wire | Approximate Diameter Over Braid in Inches | Approximate Pounds Per 1000 Feet |
| 14 | 41 | No. 30 | .145 | 19 |
| 16 | 26 | No. 30 | .130 | 13 |
| 18 | 16 | No. 30 | .120 | 10 |
| 18 | 41 | No. 34 | .124 | 11 |

Standard reels contain 250 feet of Fixture Wire.

Rockbestos Silk-covered Fixture Wire is also packed in cartons containing 250 feet of wire.

ROCKBESTOS

Automobile Wire Double Stranded Conductor



Construction The conductor is thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity, according to Matthiesen's Standard and is carefully inspected for accuracy as to diameter of individual wires and of the completed strand. Each stranded conductor is covered with a heavy wall of compounded asbestos and then the two separate conductors twisted together. Over the twisted conductors there is a braid of either cotton or Rockbestos yarn, thoroughly impregnated and waterproofed. It may be furnished in either jet black or snow white finish.

Applications While this cable is referred to as "Automobile Wire" this term only partially portrays its uses, because it can be used wherever long life and heat resistance are necessary. For automobile wiring it is ideal, removing as it does the troubles experienced in the past with insulating materials due to general deterioration. Rockbestos Automobile Wire is immune to both heat, moisture and oil in service.

Automobile Wire covers such a broad field that it is impractical to give tables of wire sizes we supply—if you will send us specifications of your requirements we will promptly supply you with samples and quotations.

Rockbestos Automobile Wire is approved by the Underwriters Laboratories, Inc.

ROCKBESTOS

Stove and Switchboard Wire Solid Conductor



Construction The conductor is thoroughly annealed copper of uniform and extreme softness and of 98% electrical conductivity, according to Matthiesen's Standard. It is carefully inspected for accuracy of diameter.

The insulation is pure long fibred Rockbestos from our own mines, thoroughly separated, carded and spun into roving which is wound upon the conductor to a uniform thickness of 25 mils and then saturated with a special chemically neutral cement. It is then further covered with a thick, closely woven braiding of Rockbestos, which is completely saturated with a special compound, the result being a switchboard wire adequate to withstand the severest treatment to which it can be subjected in service.

Applications On account of its absolutely fireproof nature, Rockbestos switchboard wire is very superior, for the wiring of all classes of switchboards, to the ordinary slow burning wires so commonly used.

Rockbestos Switchboard Wire is approved by the Underwriters Laboratories, Inc.

| Size B & S Gauge | INSULATED AND BRAIDED CONDUCTOR | | |
|------------------|--|--|-------------------------------------|
| | Approximate Thickness Rockbestos Wall in Mils | Approximate Diameter Over All in Inches | Approximate Pounds Per 1000 Feet |
| 4 | 31 | .348 | 150 |
| 6 | 29 | .300 | 108 |
| 8 | 27 | .256 | 76 |
| 10 | 25 | .220 | 50 |
| 12 | 22 | .205 | 35 |
| 14 | 20 | .186 | 25 |
| 16 | 18 | .160 | 18 |
| 18 | 16 | .148 | 14 |

ROCKBESTOS

Duplex Conductors Stranded or Solid



Construction The conductor, either solid or stranded as required, is of thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity according to Matthiesen's Standard. It is carefully inspected for accuracy of diameter.

The insulation is pure, long fibred asbestos from our own mines, thoroughly separated, carded and spun into roving which is wound upon each conductor in a uniform insulating wall of any required thickness and then impregnated. The two conductors are then laid parallel and a wall of Rockbestos roving of any required thickness is wound over both. This outer wall is in turn impregnated.

Instead of a wall of Rockbestos roving, a wall of Rockbestos yarn may be braided over the paralleled conductors and then impregnated.

Any size conductor either solid or stranded may be furnished. The finish is either snow white or jet black.

Application Rockbestos duplex conductor finds a large field of application in various kinds of special work.

ROCKBESTOS

Rockbestos Heater Cord Stranded Conductor



Construction Each of the two strands is covered with a heavy wall of Rockbestos 25 mils in thickness, treated with our special moisture-proof compound. Rockbestos Heater Cord is supplied in two types: First, the asbestos-covered conductors are either twisted or laid parallel and over them is woven a cotton braid; or, second, each asbestos-covered conductor is braided separately and the two then twisted together. The cotton braid is regularly furnished in black but on special order it may be any color or combination of colors in either cotton or silk of any grade. An absolutely fire-proof cord may be furnished having an outside braiding of asbestos yarn thoroughly impregnated.

This heater cord, with its high dielectric strength and touch and pliable insulation gives splendidly efficient service. It has many advantages over the combination of rubber and the ordinary asbestos braid; age has no effect upon it; the insulation so binds the stranded wires together that should some of them break, the fine strands will not penetrate the outer covering, thus causing a short circuit.

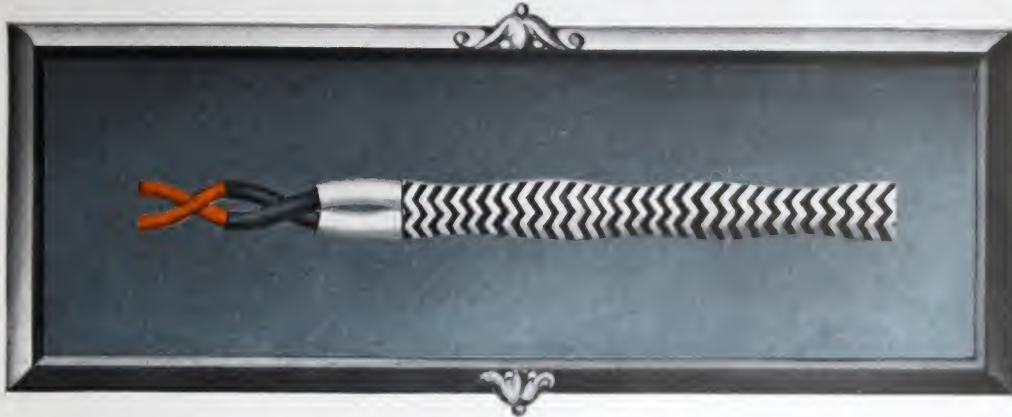
Application While this product is referred to as heater cord this term is rather ambiguous, as this cord is quite generally used to supply current to electric flat irons, coffee percolators, toasters, vacuum cleaners, fans and similar devices.

Rockbestos Heater Cord is approved by the Underwriters Laboratories, Inc.

| Size B & S Gauge | BARE CONDUCTOR Standard Construction | | Size B & S Gauge | BARE CONDUCTOR Extra Flexible Construction | |
|---------------------|---|--------------------------|---------------------|---|--------------------------|
| | Number of Wires | B & S Gauge of Each Wire | | Number of Wires | B & S Gauge of Each Wire |
| 12 | 60 | No. 30 | 12 | 163 | No. 34 |
| 14 | 41 | No. 30 | 14 | 105 | No. 34 |
| 16 | 26 | No. 30 | 16 | 63 | No. 34 |
| 18 | 16 | No. 30 | 18 | 41 | No. 34 |

ROCKBESTOS

Heater Cord With Rubber Insulation



Construction The conductor is thoroughly annealed copper of uniform and extreme softness, and of 98.5% electrical conductivity, according to Matthiesen's Standard. It is carefully inspected for accuracy, both as to diameter of individual wires and of the completed strand.

Each of the two strands is wound with cotton yarn; over this there is an insulation of high grade rubber having a $\frac{1}{64}$ -inch wall; over the rubber is spun a $\frac{1}{32}$ -inch wall of asbestos fibre; the heater cord is then made up into either of the following types: First, the asbestos-covered conductors are either twisted or paralleled, and over them is woven a cotton braid; or, second, each asbestos-covered conductor is braided separately and then the two twisted together.

The cotton braid is regularly furnished in black, but on special order it may be any color or combination of colors in either cotton or silk of any grade.

Triple conductor heater cord may be furnished in any of the above forms.

Applications Where a rubber insulated cord is required, this cord is highly recommended, because the Asbestos covering immediately over the rubber is compactly and uniformly applied, rather than braided. This insures greater durability and flexibility.

Rockbestos Heater Cord, with Rubber Insulation, is approved by the Underwriters Laboratories, Inc.

| Size B & S Gauge | BARE CONDUCTOR Standard Construction | | Size B & S Gauge | BARE CONDUCTOR Extra Flexible Construction | |
|---------------------|---|--------------------------|---------------------|---|--------------------------|
| | Number of Wires | B & S Gauge of Each Wire | | Number of Wires | B & S Gauge of Each Wire |
| 12 | 60 | No. 30 | 12 | 163 | No. 34 |
| 14 | 41 | No. 30 | 14 | 105 | No. 34 |
| 16 | 26 | No. 30 | 16 | 63 | No. 34 |
| 18 | 16 | No. 30 | 18 | 41 | No. 34 |

ROCKBESTOS

Moving Picture and Arc Light Cable



Construction The conductor is thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity, according to Matthiessen's Standard. It is carefully inspected for accuracy, both as to diameter of individual wires and of the completed strand. The stranded conductor is covered with a heavy wall of compounded Rockbestos over which is woven a Rockbestos braided covering, impregnated with a special moisture-proof compound.

Rockbestos Moving Picture and Arc Light Cable is furnished in either snow-white or jet-black finish.

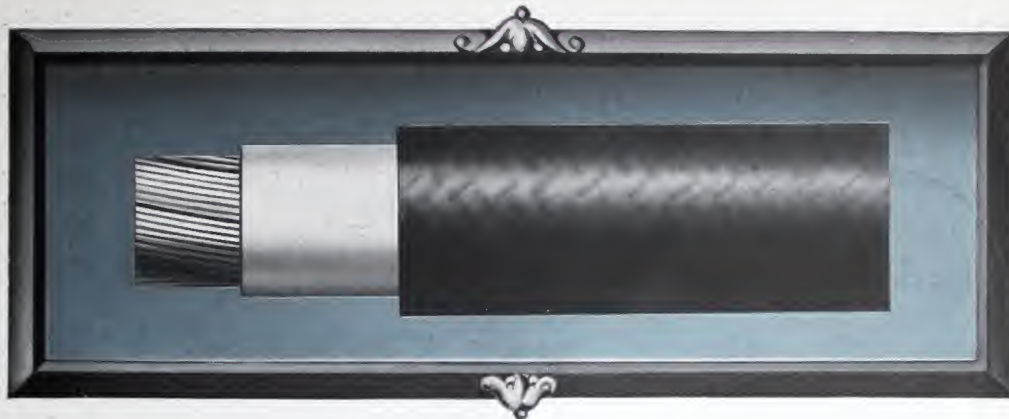
Applications While this cable is commonly referred to as Moving Picture Cable, this term is somewhat too confining, because it is also widely used for the wiring of searchlights, railway controllers, and in many other electrical devices in which heavy currents must be carried through places subject to high temperatures; for example, transmission cables for motor connections in steel mills, or cable connections to electric furnaces.

Rockbestos Moving Picture and Arc Light Cable is approved by the Underwriters Laboratories, Inc.

| Size B & S Gauge | BASE CONDUCTOR | | INSULATED AND BRAIDED CONDUCTOR | | |
|------------------|-----------------|--------------------------|---|---|----------------------------------|
| | Number of Wires | B & S Gauge of Each Wire | Approximate Thickness Rockbestos Wall in Mils | Approximate Diameter Over All in Inches | Approximate Pounds Per 1000 Feet |
| 00 | 131 | 20 | 38 | .650 | 506 |
| 0 | 133 | 21 | 36 | .645 | 393 |
| 1 | 133 | 22 | 35 | .640 | 315 |
| 2 | 133 | 23 | 34 | .609 | 260 |
| 4 | 82 | 23 | 32 | .490 | 169 |
| 6 | 84 | 25 | 29 | .340 | 113 |
| 8 | 52 | 25 | 27 | .295 | 75 |
| 10 | 33 | 25 | 25 | .244 | 50 |
| 12 | 65 | 30 | 22 | .218 | 34 |
| 14 | 41 | 30 | 20 | .200 | 25 |

ROCKBESTOS

Cable



Construction Obviously, no single construction specification would apply to all the types and sizes of lighting and power cable which we are prepared to manufacture in general. However, we may say that in all cases the conductor is thoroughly annealed copper of uniform and extreme softness and of 98.5% electrical conductivity, according to Matthiesen's Standard. This copper is invariably carefully inspected for accuracy both as to diameter of individual wires and of the completed strand.

Number of wires and number of strands per cable depend upon the service to which the cable is to be put and upon the customers' specifications, as does also the thickness of the wall of Rockbestos insulation. The outer covering may be a braid of cotton or of compounded Rockbestos yarn, further treated as conditions may require to secure immunity to the weather, acids or alkalis.

Applications For any service in which high temperatures are to be encountered or in which extreme durability and absolute reliability are of prime importance, we urge the use of Rockbestos cable.

In order that each individual problem may receive a thoroughly satisfactory solution we suggest that customers freely discuss with our engineers and with our Research Department the problems confronting them, in order that we may construct for them cables which shall render continuously satisfactory service.

ROCKBESTOS

Rockbestine An Insulating Compound

ROCKBESTINE is an impregnating compound used in making Rockbestos wires and cables. It comes in liquid form and is supplied in varying degrees of density, depending upon the uses to which it is to be put. The compound has been developed in our own laboratory only after careful research and experimental effort.



It is applicable and tenacious and leaves an extremely high lustre. It does not require high temperature, but on the contrary dries very quickly in the open air.

In spite of its high dielectric strength and quick air drying characteristics, it will not crack, check or crumble with age; furthermore, it is water-proof, acid-proof, alkali-proof and oil-proof.

The characteristics of Rockbestine make it well adapted for use in impregnating field coils, armatures, etc.

Rockbestine is furnished in either black or white, and in either cans or barrels, depending on quantity ordered.

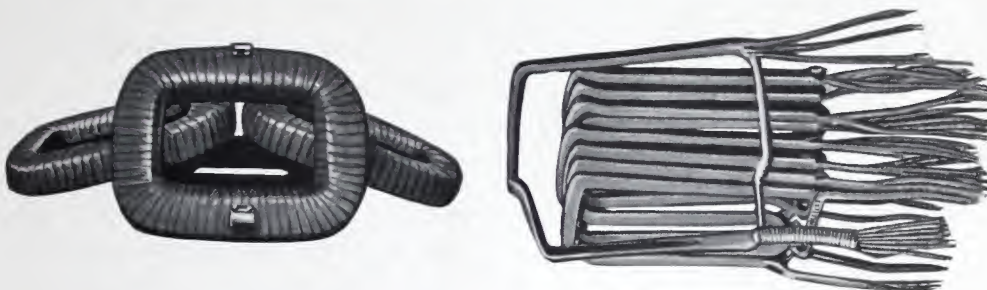
There are so many uses to which Rockbestine can be put that it is impossible to itemize them. If you will send us your specifications or requirements, we will very gladly send samples and estimates.



ROCKBESTOS

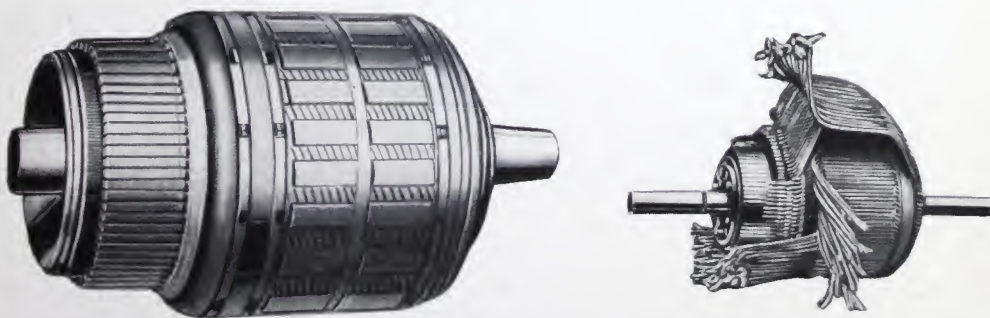
Rockbestos Re-winding Department

MANY industrial plants, manufacturers of electrical equipment, etc., have found it a distinct economy to not only insist on Rockbestos being used for all re-winding, but have also found it well worth while to send their equipment to the Rockbestos factory and have the re-winding done right there, under the active supervision of experts overseeing the work of men who do nothing but re-winding work.



The Rockbestos Re-Winding Department is at your service to relieve you of the detail, of the delay, of the poor workmanship so often characteristic of haphazard re-winding work.

On all re-winding work done in this Department Rockbestos Insulating Wire is used, thus supplying a fireproof insulation guaranteeing a superior quality.



Send your re-winding jobs to us, mark each shipment very carefully with name, address, description of job and your order number covering the work to be done.

ROCKBESTOS



ALL claims as to the heat-resisting properties of Rockbestos insulation may easily be proven by turning the flame of a blow torch upon a piece of Rockbestos wire. The insulation will be found unharmed by any temperature lower than the fusing point of copper. Use of Rockbestos wire in electrical machinery of all kinds gives definite and positive assurance against burn-outs.

INSULATED WIRE DIVISION
New Haven, Conn.

MARLIN-ROCKWELL CORPORATION
New York City

NOTE—The word "spun" occurring throughout the text is used in a general and not in a technical sense. Asbestos fibers do not in themselves possess felting qualities and cannot be spun without the admixture with the asbestos of a large proportion of cotton or other felting fibers which materially reduce the heat-resisting qualities of the asbestos. In order to avoid the extensive and deleterious use of cotton, the asbestos used in Rockbestos products is placed in the form of strands by methods which do not include the ordinary spinning operations and do not require the accompanying extensive use of cotton.





